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Compliance & Environmental Justice

US Magnesium LLC

238 North 2200 West - Salt Lake City, UT 84116-2921
801/532-2043 - 800/262-9624 - FACSIMILE 801/534-1407

October 7, 2016

CERTIFIED MAIL – 7014 2870 0001 8573 8771

Mr. David Duster, Environmental Scientist
US EPA Region 8, 8ENF-RC
RCRA Technical Enforcement Program
1595 Wynkoop Street
Denver, CO, 80202-1129

CERTIFIED MAIL – 7014 2870 0001 8573 8788

Mr. Ken Wangerud, Remedial Project Manager
US EPA Region 8, 8EPR-SR
Office of Ecosystems Protection and Remediation
Superfund Remedial Program
1595 Wynkoop Street
Denver, CO, 80202-1129

RE: RESPONSE TO REQUEST FOR INFORMATION DATED AUGUST 15, 2016

Dear Mssrs. Duster and Wangerud,

US Magnesium (USM) is herein providing the response to the U.S. Environmental Protection Agency (EPA) *Request for Information Pursuant to Section 3007 of the Resource Conservation and Recovery Act, Section 104(e) of the Comprehensive Environmental Response Compensation Liability Act, and 308(a) of the Clean Water Act*, dated August 15, 2016.

If you have any questions or need additional information, please feel free to contact me at (801) 532-1522 ext. 1355.

Sincerely,

R. David Gibby
Environmental Manager
US Magnesium LLC

Enclosure

NOTARIZED CERTIFICATE
US MAGNESIUM SITE, EPA ID No. UTN000802704, SSID 08-PU

I, RONALD DAVID GIBBY, having been duly sworn and being of legal age, hereby state:

1. I am the person authorized by US Magnesium LLC to respond to the Environmental Protection Agency's (EPA's) request for information concerning the US Magnesium facility located in Tooele County, Utah.
2. I have made a complete and thorough review of all documents, information, and sources relevant to the request.
3. I hereby certify that the attached response to EPA's request is complete and contains all information and documents responsive to the request.

(Signature)

R. David Gibby

(Name)

RONALD DAVID GIBBY

(Title)

ENVIRONMENTAL SUPERVISOR

(SEAL)

Subscribed and sworn to me

This 7th day of October 2016.

Lori Brewer
Notary Public

My Commission Expires 08/10/2019

My address is 238N 2200 W
SLC, UT 84116



- 1. Identify the owner of record of the Skull Valley Water Diversion Ditch (SVDD) or the property on which the diversion ditch is located.**

There is no sole owner of record for the SVDD. The SVDD was constructed by Amax to convey water that accumulates at the north end of the Skull Valley around the solar evaporation ponds operated by USM. The water, without pumping into the SVDD, naturally flows into the solar evaporation ponds. USM owns the water rights to the aforementioned water and can pump the water through the SVDD to a discharge area north of USM property when the water is not needed.

The SVDD traverses property owned or managed by the U.S. Bureau of Land Management (BLM), the Utah School Institutional Trust Lands Administration (SITLA), and USM.

- 2. Identify the operator, manager and entity that maintain the SVDD.**

USM utilizes the SVDD to convey water from the accumulation area south of USM's P-10 pump station to a discharge area north of the operating facility. USM maintains the P-10 pump station and the SVDD.

- 3. Describe the purpose of the SVDD and the date of construction; provide an aerial map showing where the SVDD is located.**

The natural flow of water from the Skull Valley to the Great Salt Lake is through the area occupied by the USM solar evaporation ponds. The SVDD was constructed in 1983-84 to provide a means of diverting the Skull Valley surface water from flowing into the solar evaporation ponds. Because the SVDD is not a path the water will flow through naturally, there are two large diesel pumps (P-10) that pump accumulated water through the SVDD. Without active pumping the water flows naturally into the solar evaporation ponds.

An aerial showing where the SVDD is located is provided in Attachment 1.

- 4. Does the SVDD receive and transport precipitation runoff or other water or runoff that originated from property not owned by USM? If so, identify the owner of that property.**

Precipitation, runoff, or other water that naturally accumulates and flows down gradient through Skull Valley. The water accumulates at or on property owned or managed by the BLM and SITLA. A minor volume of ground water may also daylight in the ditch near its terminus. USM has the water right to the water pumped at US Magnesium's P-10 pump station.

5. Does USM place or discharge water and/or pollutants in the SVDD? If so:

a. From where does that water come?

USM pumps water from the accumulation area south of the P-10 pump station through the SVDD. USM does not intentionally place any other water into the SVDD. The water accumulating south of the P-10 pump station is natural runoff from the Skull Valley. At various times of the year a minor amount of ground water may daylight in some locations in the SVDD.

b. Identify the owner, if anyone, of the rights to that water.

USM owns the rights to the water that accumulates south of the P-10 pump station. The water rights 16-160 and 15-1952 are included in Attachment 2.

c. Explain when, how often, and for what reason USM places water in the diversion ditch.

Water flows northward from the Skull Valley to the accumulation area south of the P-10 pump station. Historically, this water would have flowed through the area now occupied by the USM solar evaporation ponds to the Great Salt Lake. Accumulation occurs primarily during the spring and early summer with the spring runoff or after significant rainfall. If the water is not pumped from the accumulation area, it naturally flows into the solar evaporation ponds. At times the water may be added through the SVDD to solar evaporation ponds operated by USM to dilute overly concentrated brine. If the water is not needed by USM it may be pumped through the SVDD to a discharge location north of the USM property. When pumping occurs, it is normally in the spring or early summer, dependent on the runoff from Skull Valley and potential impact to the solar ponds. Pumping may occur intermittently for up to several weeks during years of heavy runoff.

6. Has USM ever applied for or received a permit from the State of Utah for discharges from the SVDD into the Great Salt Lake or any other water body? If so:

No. USM has not applied for or received a permit from the State of Utah for discharge from the SVDD into any water body.

a. Please provide a copy of any application and permit.

Not applicable.

- b. **Please provide a copy of any communication with the State concerning such an application or permit.**

USM did apply for rights-of-way with the U.S. Bureau of Land Management (BLM) and the State of Utah to build the SVDD. Information relating to these rights-of-way are provided in Attachment 14.

7. **Has the U.S. Army Corps of Engineers ever determined that the SVDD is a navigable water or a Water of the United States, or that the SVDD is not a navigable water or a Water of the United States? If so:**

The U.S. Army Corps of Engineers has not made a determination that the SVDD is or is not a navigable water or Water of the United States.

- a. **When was the determination made and by what office of the Corps?**

Not applicable.

- b. **Please provide a copy of any determination and any communications pertaining to any determination.**

Two emails were sent from Tom Tripp (USM) to Hollis Jencks (Army Corps) on July 7, 2016 and September 12, 2016. No response has been received by USM from the Army Corps of Engineers. The emails are provided in Attachment 3.

8. **Has USM ever applied for or received a permit from the U.S. Army Corps of Engineers under Section 404 of the CWA for placement of fill material in the SVDD? If so:**

No. USM has never applied for or received a permit from the U.S. Army Corps of Engineers under Section 404 of the CWA for placement of fill material in the SVDD. Because USM owns the water rights to the water that is pumped through the SVDD and water does not naturally flow through the SVDD, it has not considered the SVDD as a Water of the United States. The SVDD only contains flowing water for the duration of the channel when USM actively pumps water into the SVDD. If the water is not actively pumped it follows a natural pathway into the USM solar ponds. USM has utilized the SVDD since 2002 when it purchased the facility. It was not determined to be a water of the United States at that time.

- a. **Please provide a copy of any application and permit.**

Not applicable.

- b. **Please provide a copy of communications with the Corps concerning such an application or permit.**

Not applicable.

- 9. **Has USM ever communicated with the Utah Division of Water Resources concerning operation or maintenance of the SVDD, or concerning the placement of fill material in the SVDD? If so:**

USM includes the P-10 pumping records in the annual water use report filed with Utah Division of Water Resources. USM has not communicated with the Utah Division of Water Resources concerning operation or maintenance of the SVDD or concerning the placement of fill material in the SVDD. USM owns the rights to the water pumped through the SVDD (Water Right Numbers: 15-1952 and 16-160). Pumping water through the SVDD diverts it from its natural pathway. As explained in the response to question number 8, USM has not considered the SVDD as a Water of the United States.

- a. **Please state when, how often, and the substance of those communications.**

The water use report is filed annually with the Utah Division of Water Resources.

- b. **Please provide copies of any and all written communications.**

As examples, the annual water use reports for 2014 and 2013 are provided in Attachment 4. Also included in Attachment 4 is the water source record for the P-10 water rights from the State of Utah's database.

- 10. **Has USM carried out inspections or observations of the southern area of the CERCLA Preliminary Remedial Investigation area 5 (PRI-5) to evaluate possible failure of water containment or migration of water materials beyond the impoundment? If so:**

- a. **When and where were such inspection or observations made?**

USM generally performs a weekly visual evaluation of the wastewater impoundment dikes (PRI-5 and PRI-6). The road south of PRI-5 is regularly traversed and the dike and SVDD can be readily observed. A small breach of the dike was observed on June 2, 2015 allowing wastewater from the PRI-5 impoundment to flow into the SVDD.

- b. **Identify who conducted the observations.**

Observations of the condition of the PRI-5 impoundment containment may be made by various employees that traverse the dike. Roger Francom performs a fairly regular drive around to assess condition of the dikes. Other employees may drive along the dike and

observe the condition of the dikes.

c. Please provide copies of any reports of observations or inspections.

There are no formal reports prepared for the drive by assessments. A copy of the email apprising of the breach in the dike observed on June 2, 2015 is included with this response.

11. Has USM sampled or analyzed surface water and sediments within or adjacent to CERCLA PRI-5, including the SVDD, or beyond, including downstream to the Great Salt Lake. If so:

USM has not taken any surface water or sediment samples within or adjacent to CERCLA PRI-5 or in the SVDD beyond those associated with the CERCLA RI/FS. USM evaluated the pH of standing water in the SVDD along the south edge of the wastewater ponds on May 3, 2016.

a. When and where were samples taken?

pH tested on May 3, 2016

Inlet Canal	pH 8.20
West Culvert	pH 6.49
East Culvert	pH 6.62
East Berm	pH 6.55

b. Identify who conducted the sampling and analysis.

pH was tested by Roger Francom.

c. Please provide a copy of sampling results and any analysis of sampling.

Results as recorded by Roger Francom are included in Attachment 5.

12. Has USM evaluated results of inspections or sampling of CERCLA PRI-5 and CERCLA PRI-14 to ascertain whether there have been unplanned releases, or the potential for releases?

A cursory evaluation of the samples results from PRI5-500 (SVDD surface water), PRI5-008 (wastewater sample from east side of PRI5) and PRI5-010 (wastewater sample from southwest side of PRI5) was conducted. PCBs, dioxins/furans, HCB, iron, and monochloroacetic acid were looked at as indicator constituents. The concentrations of these constituents were found to be orders of magnitude higher in the wastewater samples than in the surface water sample taken from the SVDD. PCB concentrations were found to be 6,000 to 18,000 times greater in the wastewater than in the surface water from the SVDD. Total alkalinity of the SVDD surface water

sample was found to be 830 mg/l which is consistent with naturally occurring waters where, on the other hand, the two wastewater samples were found to be non-detect (<5.0 mg/l). As the SVDD water sample was taken just three weeks after the release into the SVDD the data suggest there was no residual contamination in the SVDD. Analytical results from the samples evaluated are provided along with a Google Earth aerial showing the sample locations in Attachment 6.

A cursory evaluation of soil/sediment samples results from PRI8-002, PRI8-001, PRI8-003, PRI8-005B, PRI8-017 and PRI15-002 was conducted. PRI15-002 was used as a baseline outside of the potentially contaminated area. PRI8-001, PRI8-002 and PRI8-003 were located at the north end of the "angel wing" in the potentially contaminated overflow area. PRI8-005B was located along the south edge of the "angel wing" in an area potentially impacted by overflow from the wastewater pond. PRI8-017 was located just north of the original dike bordering the north end of the wastewater pond and in an area impacted by movement of wastewater from the pond. The PCB, dioxin/furan and pH results were markedly different for PRI8-017 when compared to the other samples. PRI8-001, PRI8-002, PRI8-003 and PRI8-005B results were similar to PRI15-002. Analytical results from the samples evaluated are provided along with a Google Earth aerial showing the sample locations in Attachment 7.

A cursory evaluation of water samples results from PRI8-005, PRI8-019, PRI8-021, PRI6-006 and PRI6-008 was conducted. PRI8-005 was located approximately in the center of the "angel wing". PRI8-019 was located at north end of the "angel wing". PRI8-021 was south of the new dike for the overflow area. PRI6-006 was on the east side of the active waste pond. PRI6-008 was located south of the old north dike for the active waste pond. The PCB and the dioxin/furan values were markedly higher for the wastewater pond samples (PRI6).

Roger Francom evaluated the pH of water observed in two potholes in the PRI-8 area. Both potholes were evaluated with pH paper and found to have a pH of 6-7. David Duster, EPA Region 8 recorded a similar pH for water observed in the "angel wing". Analytical results from the samples evaluated are provided along with a Google Earth aerial showing the sample locations in Attachment 8.

13. Has USM ever observed water breaching the northern berm installed as part of the EPA Administrative Order on Consent, February 2014, issued under Section 7003 of RCRA, Docket No. RCRA-8-2014-001 (AOC)? If so:

USM has not observed any physical failure or breach of the northern berm installed as part of the indicated AOC. Some minor erosion has been observed from the top and down the sides of the dike from precipitation. Water and/or wet soil have been observed at various times on both sides of the berm. However, water was present in the area north of the berm at various times of the year prior to the incursion of the wastewater onto that land which resulted in the AOC and construction of the berm.

a. When and where were the observations made?

The berm is driven periodically to evaluate its condition and look for any breaches or compromised areas. These are ad hoc, visual assessments. To date, no breaches have been identified. If a breach were identified, plant operations personnel would be contacted to make repairs to the berm.

b. Who made the observations? (Identify.)

As indicated in previous responses, no observations of a dike breach have been made. Various USM employees may drive the road on the berm for purposes of conveyance or visual assessment.

c. Please provide a copy of any report or communication addressing the breach.

Not applicable.

d. Describe source of water, wastewater or other liquids that have migrated from or otherwise been released through the berm.

No water, wastewater or other liquids are known to have been released through the berm. Water is present at various times of the year in the area identified as the "angel wing". The wastewater that impacted the area south and north of the berm during the original release (prior to installation of the berm) was low pH process wastewaters both on the surface and potentially comingled with subsurface water. It is presumed that subsurface water continues to flow with some impedance from the berm. The pH of water present in the "angel wing" was determined by EPA to be 6.44 on August 30, 2016. The pH of water observed in two sink holes near the northeast corner of the BLM impacted property was shown to be 6-7, using pH colorimetric test strips, on August 29, 2016.

e. Describe the areal extent of water, wastewater or liquids from the US Magnesium property that has flowed onto land owned or managed by the U.S. Bureau of Land Management (BLM).

A Google Earth® aerial diagram of the original extent of the incursion of wastewater on to the BLM property is provided in Attachment 9. The GIS geodatabase for the overflow area used to produce the Google Earth® overlay was transmitted to EPA on February 27, 2014. The Google Earth® overlay delineated extent of the incursion as determined by USM's contractor, ERM. No incursion of water, wastewater or other liquids from USM property have been observed on land owned or managed by BLM since the original event in 2014. Vegetation kill is an indicator of low pH wastewater presence. Minimal

vegetation kill occurred on the land owned or managed by BLM during the initial event in 2014. No additional vegetation kill on land owned or managed by BLM has been observed by USM since that time.

f. Identify the origin of water that has collected on BLM land.

The pH of recently observed water would indicate a natural source such as precipitation or daylighting of groundwater. Water, both in the "angel wing" area and on the road were manifest as standing water and/or wet soils prior to the 2014 incursion of low pH wastewater. pH of water in the "angel wing" is currently neutral.

g. Provide a copy of communications notifying BLM of release onto BLM land.

No communication has been provided to BLM notifying of release onto BLM land since the original incursion in 2014. No incursion of low pH wastewater onto BLM land has been observed by USM since the original event in 2014.

14. Has USM performed analytical testing of water, wastewater or other liquids through the northern berm that was installed in CERCLA PRI-8 as part of the AOC.

USM has not performed analytical testing of water, wastewater or other liquids observed on either side of the northern berm that was installed in CERCLA PRI-8 as part of the AOC.

The pH of water observed in two sink holes near the northeast corner of the BLM impacted property was shown to be 6-7, using pH colorimetric test strips, on August 29, 2016.

UTM 12T 0353150 m E 4533357 m N ph 6-7

UTM12 T 0353137 m E 4533398 m N Ph 6-7

Subsequent testing of the standing water in the "angel wing" by EPA on August 30, 2016 showed a pH of 6.44 using a pH meter. The sample locations are shown in Attachment 10.

15. Describe the cause of the migration of water, wastewater or other liquids through the northern berm that was installed in CERCLA PRI-8 as part of the AOC.

No water, wastewater or other liquids have been observed traversing through the berm. Sinkholes have been observed both sides of the berm that indicate a potential flow of subsurface water. USM checked the pH of water observed in the bottoms of two sink holes at the northwestern corner of the land owned or managed by the BLM impacted by the initial wastewater incursion using a colorimetric pH test strip on August 29, 2016. The test strip indicated a pH of 6-7. Standing water and/or wet soil have been observed adjacent to the berm at various times during the year, primarily in the spring and early summer. It is presumed that

precipitation and subsurface groundwater are the sources of water observed in proximity to the berm. The extent to which groundwater is influenced by ponded wastewater in PRI-6 is being evaluated within the CERCLA RI/FS.

16. Explain plans to address the migration of water, wastewater or other liquids as identified under contingency planning required in Phase 3 of the AOC.

In response to the initial incursion of wastewater onto property owned or managed by the BLM, USM installed a barbed wire fence around the impacted area. Signs are posted along the fence providing a warning and contact number for information. The potential for contamination in the area is being investigated within the CERCLA RI/FS as PRI-8. USM is currently considering, in conjunction with EPA and Utah DEQ modifications to the current waste impoundment (PRI-5 and PRI-6) that would fortify the berms around this impoundment and provide a barrier tied into subsurface clay that would preclude lateral movement and infiltration of wastewater. At a future date, when evaluating the potential for contamination have been completed, remedial actions, if needed, will be identified and completed. USM will continue to monitor the north dike for breaches or compromised areas within the berm.

17. Provide the dates(s) earthen material was placed in the SVDD and the quantity of earthen material placed in the SVDD. Indicate the latitude and longitude where the earthen material was placed.

Three earthen dams were placed in the SVDD. The first dam was placed near the southeast corner of the old waste pond early in the spring 2015 as a precautionary measure with the high wastewater level observed in the active waste pond. The middle dam (southeast corner of active waste pond) was put in place after the water released in the breach of the dike to the SVDD was pumped back into the pond. The west dam was put in place after the wastewater released in the breach of the dike was pumped back into the pond. The wastewater never flowed west towards the location of the western dam. It was put in place as a precautionary measure.

There are three earth dams in the SVDD. They are located as follows:

Old Waste Pond Southeast Corner

12T 0356890 m E 4531088 m N

Active Waste Pond Southeast Corner

12T 0356103 m E 4530839 m N

Active Waste Pond Southwest Corner

12T 0354935 m E 4530599 m N

18. Explain why earthen material was placed in the SVDD. Include the names(s), title(s), and contact information for the person(s) responsible for making this decision and for the person(s) who physically placed the material in the SVDD.

Following the incursion of wastewater into the section of the SVDD adjacent to the south end of the waste ponds on June 2, 2015, earthen berms were placed in the SVDD to prevent the potential inadvertent release of low pH wastewater from moving down the SVDD toward the Great Salt Lake.

Persons Responsible Making Decision

Tom Tripp, Technical Services Manager
(801) 532-1522 ext 1259

Don Silva, Ponds Supervisor
(801) 532-1522 ext 1306

David Gibby, Environmental Supervisor
(801) 532-1522 ext 1355

Chadwick, Elting, Grounds Foreman
(801) 532-1522 ext 1276

Persons Who Placed Fill in SVDD

Tyler Johansen, Ponds Heavy Equipment Operator
(801) 532-1522 ext 1229

- 19. Provide the location(s) (latitude and longitude) and date(s) of any indication of seepage of pollutants or toxic pollutants from process water, wastewater or other liquids from USM property into the SVDD. Provide the name(s), title(s) and contact information for the person(s) who made these observations and describe what those observations were. Include any photos, reports, communications about or other document with information on the seepage.**

In January 2015 the south end of the wastewater impoundment (PRI-5) was filling up and wastewater was against the southern berm between the impoundment and the SVDD. A project to bolster the berm at the south end of the impoundment was put forward. Around the end of May 2015 pumping water from the accumulation area south of P10 through the SVDD was initiated. On June 2, 2015 adequate water had been removed and pumping was halted. As the water level dropped in the SVDD on the south end of PRI-5 a small breach in the dike opened. Plant operations personnel identified the breach and took immediate action to close it and repair the dike. Chadwick Elting and Don Silva identified the breach between PRI-5 and the SVDD. Chadwick Elting and Tyler Johansen took immediate action to close the breach in the dike. An email from Don Silva, dated June 3, 2016 (Attachment 11) describes the event. In response to his email Don Silva was given verbal direction not to flush the contaminated water through the ditch. A pump was brought in and the water was pumped back into the active waste pond. No water has been pumped through the SVDD since the breach.

- 20. Describe the names of the waterway(s) reached by the seepage of pollutants or toxic pollutants from process wastewater, wastewater or other liquids. Indicate whether water is currently present or was present in the waterway(s) when the seepage was first discovered. Describe the typical flow of the waterway(s) at the time seepage was first discovered and the typical flow throughout the year. Include the quantity of flow and condition (e.g., low, flooded, quiet, turbulent, etc.).**

Only a section of the SVDD adjacent to the south end of the waste ponds was affected by the release. Pumping through the SVDD had been halted. As the water level dropped a small breach in the dike between the waste pond (P-5) and the SVDD opened. Flow in the SVDD at this time was very low due to the fact the water was not being actively pumped and the water level in the SVDD had dropped prior to the opening of the breach. From the time of discovery until the breach was repaired wastewater had traveled only through the section of the SVDD adjacent to the southern end of the waste ponds as indicated by red staining. The effectively standing water in the SVDD was pumped back into the waste pond.

- 21. Describe the extent that the pollutants or toxic pollutants from process wastewater, wastewater or other liquids reached into the SVDD, the Great Salt Lake, or other waterways. Provide a map or aerial depicting this information.**

Water flow in the SVDD at the time of the breach was low. Red staining indicated the

wastewater traveled from the entry point through the SVDD along the southern edge of the waste ponds. An aerial depiction is provided as Attachment 12. The wastewater did not reach the Great Salt Lake or any other waterways.

- 22. Describe the process that generated the pollutants or toxic pollutants from process wastewater, wastewater or other liquids that seeped into the SVDD. Provide a list of any pollutants, whether toxic or not, pollutant concentrations and other constituents, including pH in the process wastewater at the point of generation and at the point it is released onto any land surface.**

Low pH wastewater is generated primarily from air pollution control equipment used to treat the off-gas from the processed associated with manufacturing primary magnesium. Some of the processes produce byproducts of hexachlorobenzene (HCB), polychlorinated biphenyls (PCB) and dioxins/furans (D/F). These contaminants are insoluble and adhere to particles which drop out in the ditches and the waste pond. The low pH wastewater also contains dissolved iron from the process giving the wastewater its reddish color, as well as other dissolved salts found naturally in the waters of the Great Salt Lake. The wastewater represents an aggregation of various process wastewater streams with pH ranging from less than 1 to neutral. The wastewaters are first released to land when they are discharged into the ditches conveying the wastewater to the waste pond. The wastewater in the pond has a pH of approximately one. A list of constituents is provided in Attachment 13. The constituent analysis is derived from Sample PRI1-007 – a wastewater sample taken from the main ditch east of the central ditch.

- 23. Describe the cause of the seepage of pollutants or toxic pollutants from process wastewater from USM into the SVDD. Include a description of how the pollutants or toxic pollutants from process wastewater, wastewater or other liquids flowed from the end of USM's process and reached the SVDD.**

Wastewater from the various operations at the USM facility flow through earthen ditches to an unlined wastewater impoundment. The impoundment level drops during the summer months with evaporation and rises during the winter months. In January 2015 the south end of the wastewater impoundment (PRI-5) was filling up and wastewater was against the southern berm between the impoundment and the SVDD. Around the end of May 2015 pumping water from the accumulation area south of P-10 through the SVDD was initiated. On June 2, 2015 adequate water had been removed and pumping was halted. As the water level dropped in the SVDD on the south end of PRI-5 a small breach in the dike opened. It is thought that the water being actively pumped through the SVDD may have eroded a weak point in the dike while maintaining a positive head to prevent breaching until the pumping was stopped and the water level in the SVDD dropped. Wastewater from the impoundment flowed into the SVDD through the breach in the dike.

- 24. Describe any corrective and/or remedial activities conducted in response to seepage of pollutants or toxic pollutants from process wastewater, wastewater or other liquids from USM into the SVDD including the dates of any activities and the names and contact information of person(s) who conducted the activities.**

On June 2, 2015 adequate water had been removed from the Skull Valley surface water accumulation area and pumping was halted. As the water level dropped in the SVDD on the south end of PRI-5 a small breach in the dike opened. Plant operations personnel identified the breach and took immediate action to close it and repair the dike. Chadwick Elting and Don Silva identified the breach between PRI-5 and the SVDD. Chadwick Elting took immediate action to close the breach in the dike. A pump was brought in and the water was pumped back into the active waste pond. An earthen dam had been put in place early in the spring 2015 near the southeast corner of the old waste pond as a precautionary measure with the high level of wastewater observed in the active waste pond. Two additional earthen dams were placed in the SVDD to prevent any inadvertent release of wastewater to the SVDD from flowing to the Great Salt Lake or south in the ditch towards P-10.

- 25. Provide copies of any water or soil sample data from samples taken within or adjacent to the SVDD. Include any sampling plans, chain-of-custody records, laboratory reports, sampling analysis or other sample data. Provide a map showing sample locations.**

USM has not taken any surface water or soil samples within or adjacent to CERCLA PRI-5 or in the SVDD beyond those associated with the CERCLA RI/FS. USM evaluated the pH of standing water in the SVDD along the south edge of the wastewater ponds on May 3, 2016.

pH tested on May 3, 2016

Inlet Canal	pH 8.20
West Culvert	pH 6.49
East Culvert	pH 6.62
East Berm	pH 6.55

Results, as recorded by Roger Francom, are included in Attachment 5.

- 26. List any federal, state and/or local agencies to which the seepage or placement of earthen material into the SVDD was reported. State the date and time of the notification and identify the official contacted. Include any identifying numbers (e.g., NRC number, spill number, etc.) assigned by the agency. Provide copies of written communications reporting the seepage or placement of the earthen material.**

No federal, state or local agencies were contacted with regard to the release into the SVDD or placement of earthen material into the SVDD. The release of wastewater was conservatively

estimated to be a few thousand gallons. The RQ for HCl is 5000 lb, calculated as anhydrous. This would require a 164,000 gal release of Ph 1 solution to exceed the RQ.